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AMERICAN FRUIT GROWER

Edited by Samuel Adams

NOVEMBER 1921

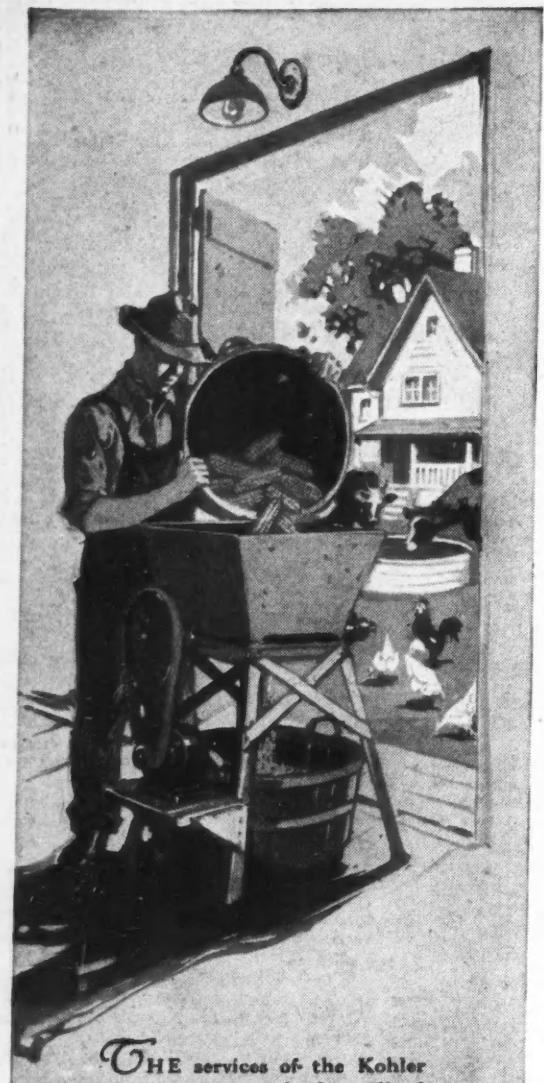
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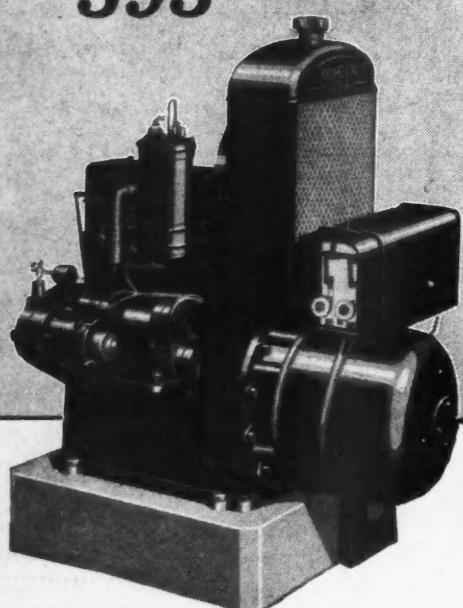


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A \$100,000 Fruit Packing House in Florida

How the Citrus Growers at Lake Alfred Financed, Built and Equipped Their New Building—Some Ideas for Other Communities

By Frank P. Goodman, Florida

WHEN a community has reached the stage that it demands a packing house of sufficient capacity to warrant calling upon the fruit growers in the vicinity to expend \$100,000 for immediate needs, it may be well taken for granted that such a community has passed the good old pioneering stage, and that its citizens are reaping a long-looked-for return in the way of a golden harvest. Such is the case today at Lake Alfred, Florida.

The home of the Lake Alfred Citrus Growers Association, recently completed, and shown in the accompanying view, is without question one of the finest, most up-to-date packing houses in Florida. Before accepting final plans for the building, a thorough canvass was made of the desirable features connected with at least a dozen houses throughout the state built in years gone by, and these good points were incorporated in this building, so that today it stands as the last word in packing house construction.

The building proper is 122x200 feet, with basement 70x122 feet. The basement will be used exclusively for the storage of crate materials, the concrete floor resting on Mother Earth, and for the making of packing boxes, which when completed will be carried by conveyors to the first floor, and automatically placed under the several sizers ready for use by the packers. This arrangement eliminates the customary messanine floor which interferes more or less with both light and ventilation.

Fruit Moves One Way

All fruit will be handled on the main floor, and the machinery is so

arranged, lengthwise in the building, that as the fruit is delivered to the receiving clerk at one end it will be moved in the most direct manner to its final destination in the refrigerator cars at the other end, without any lost motion or undue handling or trucking.

One end of the packing house borders the railroad track instead of having the side parallel it, as has been done in the case of most Florida packing houses in the past. As additional units are necessary, the present structure need not be disturbed in the slightest, so there will be no tearing down or waste involved.

The two two-story wings shown in the picture are each 18x30 feet and will be utilized for offices, directors' rooms, paper storage space, ladies' rest rooms and care-taker. The construction of the entire building is of concrete and tile, finished in shell stucco, making a most pleasing appearance. The saw-tooth type of roof was selected because of its unexcelled lighting and ventilating facilities. An innovation in packing house building in Florida rests in the main floor being constructed of concrete covered with two-inch asphalt blocks. This makes it possible for workmen to perform their services with ease, as there is a certain resiliency to be had with asphalt which is not found in concrete, and in addition thereto repairs may easily be made when necessary by replacing worn blocks of asphalt with new ones.

The location of the building is ideal, readily accessible to the three thousand acres of groves surrounding it, and which will constantly be augmented by new plantings each year. The house will have sufficient capacity to pack in the course of a shipping season approximately 350,000 boxes of fruit, and ample provision has been made for future additions as they may be required.

The Financing Plan

Naturally, the question arises: how was the money procured during this period of depression in most sections of the country? Practically every dollar was furnished in cash by the fruit growers in the community. From this it will be seen, in the first place, that this section has been almost immune from the hard times being experienced elsewhere, and, in the second place, that the growers have implicit faith in their particular line of industry.

A thorough canvass was made of the growers in the community and each one interested in the proposition was urged to subscribe as large an amount as possible in actual cash, the same to be payable to the trustee not later than January 1st, 1921. Real money was wanted and not mere promises. This step was taken during the summer and fall of 1920, so that by December the approximate amount of money which would be available was definitely known. This determined in a very large measure the type of house to be built. It was not the desire of the directors to under-

take the construction of a building which could not be paid for when completed, and the money markets of the country were such then that bonds would not have been readily saleable, unless at a prohibitive discount.

By the first of the year the directors had in sight \$75,000 and felt that they would be justified in planning for a \$100,000 building, with equipment, in view of subscriptions which would be paid before final completion of the building, and of the assistance promised by the Growers Loan & Guaranty Company.

The local association then issued bonds for \$100,000, naming the Lake Alfred State Bank as trustee to collect and disburse all funds. These bonds were issued in denominations of \$100, \$500 and \$1,000, to accommodate small as well as large growers, all dated January 1st, 1921, maturing June 30th, 1929, and bearing eight per cent interest from date, interest being payable annually rather than semi-annually. This provision was made in order that the association would have the use of the money for the longest possible period, and would not be embarrassed in meeting interest payments until such time as the house had been given an opportunity to run for a season and thus provide the necessary funds with which to meet the interest. Provision also was made whereby, upon six months' written notice to the trustee, the whole or any part of the bond issue could be retired.

A sinking fund will be established by making an assessment of ten cents per box on all fruit of members

(Continued on page 11)



The Citrus Growers at Lake Alfred, Members of the Florida Citrus Exchange, Wanted a New Packing House and Here Is What They Built

How the Peach Crop Was Saved

Some of the Control Measures Used by Georgia Growers in Their Campaign Against the Curculio

By Oliver I. Snapp, Georgia

GEORGIA'S 1921 record peach crop of nearly 10,500 carloads was without doubt generally as free from curculio damage as any peach crop produced in the state in a number of years.

The successful control of the pest was indeed surprising on account of the infestation a year ago, which was very much more severe than had ever heretofore occurred in this country, leaving myriads of adult beetles hibernating through the

past winter to damage the new crop. At least ten million dollars was added to the bank account of Georgia peach growers from the sale of this year's crop. This was quite a relief after a partial failure two years ago, and the almost complete failure a year ago when the curculio damaged the crop to the extent of at least two million dollars. The efficient control of the curculio during the season just closed can be attributed directly to the various control measures which the growers endeavored to carry out as thoroughly as possible under the direction of the U. S. Bureau of Entomology.

There were many valuable lessons learned from the curculio suppression campaign which was waged for a period of eight months against this destructive peach pest in Georgia. The writer will endeavor to bring some of the more important of these lessons to the attention of the peach growers of the country in order that they may be put into practice in the future to avoid curculio damage.

Illinois Growers Study Co-operative Packing

Visit Association Packing Houses in Several Eastern States to Get Pointers on Construction, Operation and Equipment

By E. H. Favor, Managing Editor

FOR the purpose of making a first-hand study of the operating methods of co-operative associations, and to see the construction and equipment of packing houses, fifteen members of the newly organized Illinois Fruit Exchange made an automobile trip through Michigan, Ontario and Western New York early in September. The tour was conducted by C. E. Durst of the Illinois Agricultural Association. Some eighteen or twenty co-operative associations were visited and their packing houses inspected. From the things seen and learned on this trip, the Illinois Fruit Exchange expects to leap forward into activity next year in the construction of its packing houses and marketing with less likelihood of falling into the blunders so frequently met with in young associations.

It might be said here that the Illinois Fruit Exchange is organized to serve the co-operative marketing activities of the fruit and vegetable growers of the state. Branches are to be established at such points in Illinois as may be necessary, and these branches will function as local associations, although the branch managers will be employed through the central office, and all property will belong to the central association and not to the branch. Throughout their trip, the members of the Illinois Fruit Exchange were on the lookout for a better plan, but

were unable to discover any items superior to those they have adopted.

In the way of packing houses, many valuable pointers were picked up regarding their construction, equipment and operation. In the packing houses visited there was observed fruit sizing machinery of several makes, all of which was operated by electric power. Some of this machinery was intended

chiefly for the sizing of apples, while other machines were designed to size fruits of more or less irregular shape, such as peaches and pears. But in point of labor-saving equipment, and orderly, systematic handling of the fruit, only one packing house was visited where the equipment was such that hand operations were reduced to a minimum. This was the packing

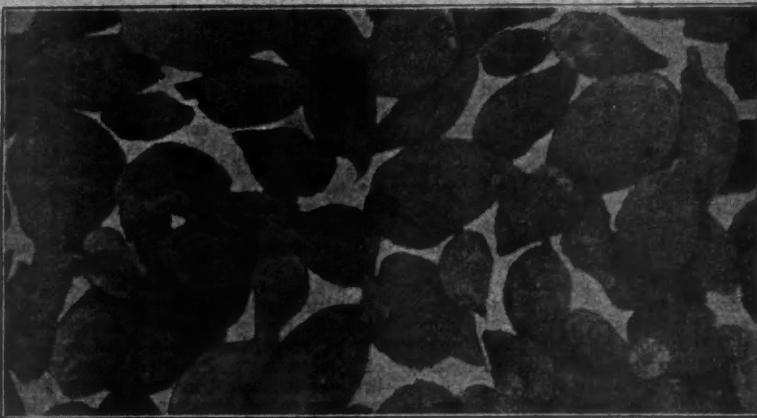
house of the Fennville Fruit Exchange at Fennville, Mich. This packing house is constructed of hollow tile, two stories in height, with a roomy basement. It is equipped throughout with roller conveyors, sizing machinery and other equipment that will eliminate labor, reduce damage to the fruit and lower the cost of handling to the minimum.

This packing house is like an "L" in shape. Fruit is delivered from the orchards at doors at one end of the "L" where it is unloaded onto carriers. It then moves to the grading machines where it is sized and packed. From the packer's tables it is lifted to roller conveyors and moves to the other end of the building where it is loaded into the freight cars. All of the machinery in this building is operated by electricity.

Building Materials Used

Hollow tile construction was observed also in the packing houses of the Berrien Co-operative Fruit Association, Coloma, Mich., and was spoken of very favorably as the desirable material for packing house construction by several other Michigan associations whose frame buildings are to be replaced with more modern structures in the near future. But of the frame buildings that are seen in the Michigan fruit belt the one outstanding model is that occupied by the Bangs Fruit Exchange at Bangs. This building is 90 by 120 feet in size, con-

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These Little Dropped Peaches Are the Incubators for the Late Brood of Curculio

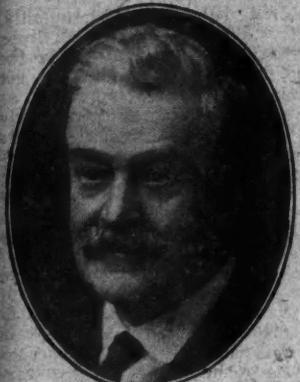


The Illinois Party That Went To See
Top row, left to right: A. T. Hetherington, E. Kinsey, C. L. Maddox, F. J. Lanter, F. J. Blackburn, J. L. Fuller,
L. L. Casper, R. B. Endicott. Bottom row, left to right: O. H. Casper, N. W. Casper, E. A. Bierbaum, C. E.
Durst, W. L. Parks, H. O. Hinkley, H. L. Cope.

What Will The Fruit Committee Do?

First Meeting Called for Atlanta on November 19th to Organize and Begin Its Preliminary Work

BECAUSE of an error made in transmitting the original list of the Fruit Committee from the executive meeting to the American Farm Bureau Federation held in Springfield, Mass., to its Chicago office, some omissions were made, and as the committee now stands, there are twenty-three appointees, most of whom have accepted the appointment.



JAMES NICOL,
South Haven, Mich.

The members of the committee, in addition to the list of twenty-one named in our last issue are: James Nicol, president, Michigan State Farm Bureau and Samuel Adams, Editor, AMERICAN FRUIT GROWER. J. S. Edwards, Redlands, Calif., has been named alternate delegate from California. Mr. Nicol has been named chairman of the first meeting of the committee to be held in the Piedmont Hotel, Atlanta, Ga., beginning on Saturday, November 19th. The meeting will be held at the same time as the third annual convention of the American Farm Bureau Federation at Atlanta, and will be largely for the purpose of enabling the Fruit Committee to perfect its organization and outline its course of procedure.

We have asked all members of the committee for a statement that could be laid before the readers of AMERICAN FRUIT GROWER in this issue, in which they would indicate briefly some of the important things, which in their opinion, should come before the committee. Not all members of the committee have been heard from at the time this is written. But in the opinion of Gray Silver, of the American Farm Bureau Federation, one outstanding problem that needs to be threshed out is the standardization of packs and the official certification of



W. G. FARNSWORTH,
Waterville, Ohio

Fruit at the packing house. Mr. Silver writes:

Standard Grades

"One of the weaknesses of our present fruit marketing system, which should receive the serious consideration of the Fruit Committee is the proper standardization of pack and official certification of fruit. We have recognized this in West Virginia and have operated for two seasons a state-

We ask all of our readers to let us have their suggestions about problems that, in their opinion, should come before the Fruit Committee. The committee welcomes your suggestions and by sending them to the Editors of the American Fruit Grower they will be brought to the attention of the committee at its first meeting, November 19, 1921.

owned community packing establishment where apples are sorted into grades, and the culls are canned, dried or made into cider or vinegar. We are thus raising the standard of apples shipped from this establishment and receiving more money for our product. Instructions also is given to packers who learn how to pack according to the high standard and thus we expect to raise the quality of fruit generally throughout the "Apple Pie Ridge" section and the state of West Virginia.

"We tried out last season an innovation which promises great advantages to the fruit grower and I hope the Fruit Committee will work for its provision and general adoption. We had our fruit inspected by federal and state authorities at point of origin—the packing house. This goes hand-in-hand with market inspection in the large receiving centers. It gives the grower an authoritative statement of the condition, grade and quality of the fruit as it leaves the siding and avoids

very valuable member of the committee, and it is to be hoped that he can devote as much time to the work of the committee as may be necessary.

The National Viewpoint

Samuel Adams, Editor of AMERICAN FRUIT GROWER, states that in his opinion, one problem that should be considered by the Fruit Committee is the "organization of state or regional co-operative associations and the establishment of community packing houses that will facilitate the co-operative marketing of fruit. But no matter what problems come up for discussion, in my mind, they should be considered strictly from the national viewpoint. All fruit growers are concerned in the activities of this committee. Some of these are growers of strawberries, some of apples, peaches, prunes, grapes, cranberries, figs, raisins, citrus, and so on. All are confronted by problems, which in various ways also affect the growers of other crops in



SAMUEL ADAMS,
Editor AMERICAN FRUIT GROWER
Chicago, Ill.

controversy with railroads and distributors.

"There are many other problems which the committee will consider but I am sure these are worthy of study and personally I am confident they will improve marketing conditions materially."

W. G. Farnsworth, Waterville, Ohio, is of somewhat the same opinion as Mr. Silver, in that there is need for a standardization of grading, packing and advertising. Mr. Farnsworth's statement follows:

"I feel that one of the main points in marketing fruit is the proper grading, packing and advertising of what we have, so that when we sell or buy a car of No. 1 Standard grade 2½-inch Baldwin apples, we will definitely understand just what we must place in the barrel or car. There also is need for some method of distributing fruit whereby we can eliminate a part of the freight charge, and not overload some markets while others are empty."

C. E. Stewart, Jr., General Manager of the Florida Citrus Exchange, says a lot in a very few words. In answer to our letter requesting a statement from him for this issue of AMERICAN FRUIT GROWER writes that he does not need to write fifty or a hundred words, but can write two—"freight rates." That is a big and serious problem, and those who know Mr. Stewart know what a vigorous, energetic fight he has made to obtain lower freight rates for citrus fruits out of Florida. Mr. Stewart will be

tion of other members of the committee."

N. R. Peet, General Manager, Western New York Fruit Growers' Cooperative Packing Association is of somewhat the same opinion as Professor Greene. Mr. Peet writes: "It hardly seems fitting for me to say in advance of the first meeting of the fruit committee, appointed by Presi-



C. E. STEWART, JR.
Tampa, Florida

dent Howard of the American Farm Bureau Federation, anything, or to outline my ideas of what this committee should take up. I was not present at the meeting last April when the matters in general were discussed, and I do not know how deeply it is intended that this committee should go into the problems affecting the marketing of fruits."

What Do You Suggest?

Other members of the Fruit Committee whose statements have not been received at the time this is being prepared may have as diversified opinions as appear in those quoted above. But all will have an opportunity at the Atlanta meeting of expressing their opinions and of assisting in framing up a working program for the committee's activities. There is some real work ahead for the committee. There are some hard problems to work out, and because of the diversity in the fruit interests of this country, no one can anticipate just what will constitute the main projects to be undertaken.

Undoubtedly there are some serious problems that may not come up for attention very early in the work of the committee, purely from oversight. Yet those very problems may be of dominating importance in the minds



M. B. GOFF,
Sturgeon Bay, Wis.

of many readers of these columns. Because of that, we ask all of our readers to let us have their suggestions about problems that, in their opinion, should come before the committee. We will see to it that they are brought up for attention. No matter what is on your mind, let us hear from you, as you may have a problem, or the key to a problem worthy of the serious attention of the Fruit Committee.

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Orchard Problems and their Solution

by Paul C. Stark
Associate Editor

Delay Heavy Pruning Until Mild Weather

I have a small orchard of peach trees and they have made a fine growth, but are limbed close to the ground. Would it be safe practice to cut the lower limbs off this fall? — J. H. C., Illinois.

I WOULD not advise you to cut off these limbs in the fall. It would be better to wait until late winter after the severe weather is over before doing any heavy pruning; also I would not advise cutting off too many of the lower limbs. Peach trees bear on the wood of the previous season's growth and it is advisable to keep them moderately headed back so as to keep the bearing surface close to the ground. Extremely high headed trees are expensive to spray and pick or other necessary attention. In peach trees low heads are especially desirable.

Peach Varieties for Local Market

I am thinking of planting 15 acres peaches, principally for local and nearby markets. I have light clay loam soil in good state of cultivation, it having been in espeseda for four years. The ground is high, somewhat rolling and well drained. It seems to me that this is purely an experiment as I do not know of a good orchard in the country. I have some three year old trees which seem to be doing finely. Am I in this locality at a disadvantage because of late frosts? I have similarly situated land which is of a whitish clay and somewhat gravelly. Would you prefer the red or white soil? What do you think of the proposition? If favorable, what varieties would you recommend? — F. E. C., Tennessee.

ELSEWHERE I have explained the value of good local and nearby markets. The problem in planting for local markets is to make your ripening extend over a long period so you will have peaches as long as possible, while if you were planting for some distant market, you would try to figure out the varieties that would reach that market at a time to bring the highest price. From the description of your soil, I would prefer the red loam to the white soil. I have seen as fine peaches as were ever grown come from Tennessee. Several years ago Dr. E. L. Marsh of Johnson City, Tenn., sent me some magnificent Early Elberta that were grown by him. He also grows a lot of other varieties and sells them on local markets at a very profitable price. Growing peaches in Tennessee is not an experiment. If you will plant the right varieties and give your trees good care, there is no reason why you should not make it a very profitable investment, particularly if you have a good local market. In varieties for home planting in your section, I would suggest the following, listed in the order of ripening: Mayflower, Red Bird Cling, June Elberta, Alton, Early Elberta, Belle of Georgia, Elberta, J. H. Hale, Late Elberta, Mammoth Heath Cling, Sea Eagle Improved and Krummel October.

Controlling Aphis and Brown Rot

Please tell me what I should do to prevent aphis on plum trees? Can I graft peach on plum trees? This year I have trouble with peach trees. The limbs are covered with some insect, black in color—they look something like what they call lady bug. I tried nicotine and soap but it is of very little use. Can you tell me what it is and what I can do for it? How can I prevent plums and peaches from rotting just before they get ripe? — F. F., New York.

A PHIS on plum trees can be controlled by spraying with tobacco solution. You can make it out of tobacco leaves or stems or you can buy

nicotine sulphate, which is a concentrated form of tobacco extract. You can also kill the aphis by spraying or dipping the ends of the branches where the aphis usually work, in a solution of one pound of soap and five gallons of water. You can bud peaches on plum trees. In regard to the insect working on your peach trees, from your description I can't tell exactly what it is. The plum curculio also works on peaches, but it is a thick, snouted beetle about a quarter of an inch long, brownish in color marked with gray and black. It lays the eggs in the peach or plum and it hatches into a white grub about one-third of an inch long with brown, dark head. Spraying with arsenate of lead will control curculio. The rotting of your peaches and plums is due to brown rot. It can be controlled by spraying with self-boiled lime-sulphur. You can mix the arsenate of lead with the self-boiled lime-sulphur and it will tend to control the eating insects if thoroughly applied.

Grapes and Early Apples

When is the proper time to cut sweet clover when grown in a mature orchard for a green manure and cover crop? And is or has it (sweet clover) been of much value in Ohio? Doesn't it rob the tree of a great deal of water? I believe I like clean cultivation until July then soy beans. Is Liveland Raspberry a better market apple than Yellow Transparent? Would you plant all of them or just one? I think for looks and quality they are fine. Would 1,000 grapevines be a fair sized vineyard for a climax basket trade of a city of 10,000 and no competition? Isn't good corn and oats land good for grapes?

I am 31 years old and own 80 acres here in Van Wert County, Ohio, where nothing is raised but corn, oats and hogs. Eight years ago I took a two-year course in agriculture and horticulture at Ohio State University and am more interested in the horticulture part every day. Have about half of the place in apple trees, and when I mention more plantings to most any one, it evokes a sort of supercilious smile. Had one better stick to time honored custom, or if he likes something else better, "go to it." Have in mind more general plantings to cover a season. D. C., Ohio.

IN REGARD to sweet clover, this is a crop that has been used in southern Illinois very extensively with good results. It has a very heavy root that goes down deep into the soil and loosens it up as well as bringing a lot of plant food to the surface. Some growers let it grow high, but in my opinion, it is better to let it get a moderate height, say one and a half feet, and then mow it. I do not know of any experience they have had in your state with sweet clover, but I do know that clean cultivation until July and then sowing of soy beans is a very good pronostication.

One thousand grapevines would supply a considerable quantity of grape for your local market and would plant about two acres. It is my opinion that you could have at least four acres and be able to sell them on your local market. Any fairly good land will grow grapevines. It is best not to plant them on extremely rich bottom soil.

You know what corn and oats are selling for today and will probably sell for in the next few years. You can make a whole lot more money out of fruit particularly if you have a good local market, than you could if you raised corn and oats as a straight farm proposition. If you are really interested in horticulture, and I take it from your letter that you are, I will give the right attention to your trees and plants you will make a success. Briefly, the right man with a good market, can make a whole lot more money out of fruit than he could with ordinary farm crops.

How the Peach Crop was Saved

(Continued from page 4)

Another operation which assisted in handling the curculio during the 1921 season was the cutting up of the soil during the pupation period of the insect. When the larva or "worm" of the curculio reaches maturity in the fruit, it enters the soil to pass the pupa stage, or the stage of transformation from the larva to the adult beetle. The insect, however, does not pass into the pupa stage immediately after entering the soil, but while still in the larva, or "worm," stage prepares a soil cell to protect it somewhat during the transformation. Upon the completion of this cell the larva changes to the pupa, which is the helpless stage in the insect's life history and is a period of inactivity. Frequent disking at this time with an extension disk, such as the California Senior, destroys or breaks up the cells, and since the insect is in the helpless stage another cell cannot be prepared. The pressure and heat of the soil will then cause the death of many pupae in addition to those killed directly by the disk.

It would be well for peach growers to include this practice, also, in their orchard management program, making an effort to disk as frequently as possible—in the south during the month of June.

Burn the Weeds

The burning, cleaning up, and orchard sanitation work of last winter was responsible for the destruction of many hibernating beetles, which were carried over from the severe curculio year of 1920. The infestation in the past year's crop might have been much worse had it not been for this phase of the suppression campaign. There are still many adult curculio beetles left in the Georgia peach belt, having emerged from the soil during the past three months, and growers are warned to again burn over woodlands and wastelands adjoining orchards during the coming winter and to carry through an orchard sanitation program as thoroughly as possible in order to avoid a severe infestation to the peach crop next spring.

It is universally conceded by those connected with the peach industry in Georgia that the thorough spraying and dusting, the applications of which were made at the time when they would be most effective, was the potent factor in the successful control of the curculio in the 1921 crop. The spraying job as a whole was without doubt the best ever seen in the peach belt of Georgia, and it was usually done with the proper white supervision, which is quite necessary when negro spraymen are used, as is usually the case in southern peach orchards.

There is very little, if any, curculio activity during the stone-hardening period of the peach, and a waste of both time and money results when sprays are applied during this period in order to efficiently handle an insect of this kind by sprays, it is very necessary to make sure that the applications are made when the "bug" is actively at work. By means of a telephone spray-service and the press, the growers were notified of the exact dates when each variety should be sprayed or dusted. The importance of making the applications on future peach crops at just the exact time and with special attention to thoroughness cannot be too strongly emphasized. The spraying and dusting schedules for the 1922 season, which will be formulated from the results obtained from spraying and dusting experiments conducted during the season just closed, will be issued before mid-winter.

Regardless of the Weather

On account of the peach insect and diseases becoming so generally disseminated over the peach sections of the South, making a more serious problem as the industry grows, it becomes necessary for the growers to yearly carry through a program of work directed toward the control of



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American Fruit Grower

these pests. Peach orchardists must not be misled by the erroneous idea that the condition of the weather is the all-important factor in the development of the curculio; whether the season be rainy or dry the curculio can and will develop in great numbers unless the proper control measures are thoroughly enforced.

This fact was contrary to the opinion of many growers until demonstrated under practical conditions during the past season. The weather conditions for peaches in Georgia during the 1921 season were the most favorable experienced in years. From the pollination season until the crop was harvested, very little rain fell and the weather conditions were otherwise favorable; yet, in spite of these conditions and the groundless opinion concerning the non-development of the curculio during a reasonably dry season, the curculio developed in surprising numbers in several orchards in which the various curculio control measures were not enforced, and the fruit from these places was of very inferior quality, a quantity of it being unfit for market. Furthermore, in blocks of trees left untreated throughout the season for experimental purposes the curculio damage was enormous, and yet the weather, being dry, was supposed by some to materially hinder the development of the curculio. The sound fruit from some of these untreated blocks ran as low as four per cent as compared with a little over 90 per cent of sound fruit harvested from some of the treated blocks.

Follow Every Year

The fight against the curculio is not yet over. The various control measures referred to in this article must be made annual orchard practices, in order to prevent the accumulation of the

Illinois Growers See Packing Houses

(Continued from page 4)

structed of hardwood throughout, with a full, deep cement lined basement that is practically frost proof, and which is designed for the storage of several cars of apples.

This building cost the association \$12,500 some three years ago. Its equipment consists of two apple grading machines, an elevator extending from the basement to the second story, all of which are electrically operated. Instead of conveyors that will transport the fruit from the unloading platform to the sizing machines, and from the packing table to the car doors, two hydraulic hoisting hand trucks are used. This style of truck was observed in practically all of the packing houses where conveyor system was not used. It is capable of handling a load of a half ton at a time, although the packages of fruit must be lifted on and off of it by hand.

Visits were made at the grape associations in Paw Paw and Lawton, but as the packing of grapes is done in the vineyard, the buildings occupied by these associations were used chiefly for office purposes and as warehouses for the merchandise, such as feeds, fertilizer, spraying materials, packages and vineyard supplies that are used by the membership. The Southern Michigan Fruit Exchange at Lawton has sold over \$25,000 of merchandise since January 1st.

The Peninsular Growers

From the fruit belt of Michigan, the Illinois visitors hurried eastward into Ontario, where a short visit was made at the packing house and pre-cooling plant of the Peninsular Growers, Ltd., at Grimsby. The pear season was at its height, and this plant was greatly congested, as the demands upon its facilities far exceed its capacity. In the storage and pre-cooling plant of this organization, some twenty cars of fruits can be handled at one time. But in order to increase the capacity to accommodate the large volume of fruit that must be handled, a very large steel and concrete cold storage plant was under construction and the packing house is to be materially enlarged and improved in mechanical equipment.

progeny of the curculio. The program of work, including the burning, cleaning up and orchard sanitation work as well as careful attention to the picking up and destruction of all dropped fruit from the time of pollination until after harvest, frequent disking under the trees during the pupation season, and careful and thorough spraying should receive as much, if not more, attention during the coming winter and spring as during the season just closed.

The peach acreage in the south is being increased yearly. Many sections are planting peaches where they have never been grown commercially before. Georgia's 1921 record crop of nearly 10,500 carloads will probably be surpassed in the near future by the increased acreage. As the production of any agricultural crop is increased in a section of the country by increased acreage, the pests which feed upon it likewise increase unless the proper attention to control measures is enforced. The curculio problem demands special annual attention, and unless such attention is given it a "wormy" crop may be expected. Even with the efficient control measures practiced during the past season many adult curculos have gone to their winter hibernating places, and are going to cause trouble in 1922 unless controlled.

The results achieved from the curculio suppression campaign during the past year clearly demonstrated the fact that the curculio can be efficiently controlled by the utilization of the proper control measures at the right time and impugns the heretofore erroneous opinion of some growers that the pest is uncontrollable when certain weather conditions prevail, irrespective of the control measures used.

Illinois Growers See Packing Houses

(Continued from page 4)

The chief interest of the Illinois visitors lay in Western New York where the young Western New York Fruit Growers' Co-operative Packing Association has undertaken the packing of the fruit produced by the membership of its local associations. This is the first active year of the association although its beginning came three years ago, when Nelson R. Peet, the present general manager was county agent in Niagara county. Mr. Peet saw the urgent need for better packing methods, and knew that it could be obtained in only one way, and that was to have the packing done in community houses, where the actual labor of packing could be done by disinterested persons under uniform conditions.

The New York apple grading and packing law was at that time causing much confusion among those who packed their own fruit, and to avoid the penalties of the law, through an unintentional blunder, most of the growers branded the fruit as "unclassified" and sold it for what it would bring. But Mr. Peet realized there was a better way of handling the whole proposition, and so started out to organize local co-operative associations that could handle the packing situation and at the same time put out the packages properly graded and branded. He organized sixteen associations in the county, limiting each association to a small membership, and selecting the members as nearly as possible to those who would work well together and who were equally good growers.

New York to the Front

So successful were these associations that the movement outgrew the county and spread all over western New York, with the result that a central organization was made necessary. This organization was created, and now labors under the jaw breaking name of Western New York Fruit Growers' Co-operative Packing Association. There now are 29 local associations holding membership in this central unit, and each has its own packing house, where the fruit is packed according to the legal stand-

ards or better, and branded in conformity to the state law, as well as carrying the "Catarac" brand of the association.

Because of the youthfulness of all of these local associations in western New York, their packing houses, while sufficient for present needs, are of no particular style of construction. Mr. Peet tells the whole story so tersely in a letter that I am quoting from what he has written: "No two of the buildings are alike. They were built around the unit which might be expressed in this way; that an association of men who normally produce 20,000 barrels of apples should have a packing house of at least 5,000 square feet of floor space. Such a building, under western New York conditions, will also accommodate up to 40,000 bushels of peaches, as well as the pears, plums, prunes, quinces and other fruits grown by the membership. This space will be big enough, provided there is adequate arrangement for taking care of the fruit outside of this floor space immediately after it is packed.

"For this reason the association in handling apples usually builds on ground leased from a cold storage, and place their building adjoining the cold storage building. The association then enters into contract with the cold storage company for approximately fifty percent of its output. This, together with ample trackage room (and by ample, I mean space for loading at least three cars at a time) will take care of the apple crop of the association. A peach association should have room for loading at least ten cars at a time, without the help of a shifting engine, if it is going to handle 40,000 bushels of peaches.

Standardization

"Most of the buildings are frame. Under certain circumstances cement floors are used. They are cheaper if the level of the ground is such that it is possible to place the floor on a solid foundation and still be wagon-high at the receiving door. Sizing machines are used in all of the packing houses. In fact that is the reason for establishing the packing house. Our whole idea so far has been to secure standardization, which is fundamentally necessary. We are getting this standardization by sizing apples in quarter-inch sizes. By that I mean that no two apples in any barrel are more than a quarter of an inch different in maximum diameter. Many of these sizing machines are quite complex, and in some cases cost as high as \$1,500. It is obvious that but few individual growers can wisely invest this amount of money for their own fruit, and it is only a few growers who produce a large enough quantity to make it practical to size in quarter inch sizes.

The outstanding feature observed by the Illinois visitors was that a well constructed and well equipped packing house is fundamental in securing a proper standardization in sizing and grading of fruits, and that such a standardization is imperative in the sales activities of a co-operative association. With the knowledge gained by this tour of inspection through Michigan, Ontario and New York, the members of the Illinois Fruit Exchange feel they have a much more comprehensive knowledge of what's what than before, and are in position to regulate the activities of their young association in proper channels.

Editor's Note: The central packing house idea has proved to be the most economical and satisfactory way of handling fruits, so as to have them packed according to a definite standard and sell at the best price. If you, or your association is considering the building of a packing house, and you are in need of information of any character about it, lay your problems before the editors of **AMERICAN FRUIT GROWER**. They may have just the information you want, or can place you in touch with architects, engineers and manufacturers who may be able to supply your needs.

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One of the apple orchards which justify the faith we have in SCALECIDE as expressed by our Guarantee printed below. Start this year to make your orchard better—use SCALECIDE.

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An advertisement for "The Truth About FLORIDA" magazine. It features a large sunburst graphic on the left. The title "The Truth About FLORIDA" is at the top in a stylized font. Below it, a large, bold "FLORIDA" is written. A sub-headline reads: "Read the truth about this land of opportunity. Know where to go, what to do. Ignorance means failure. Knowledge brings success." The text continues: "Florida's big weekly paper states the facts about climate, soil and production. Impartially answers questions. Send 25 cents for trial subscription. 12 big issues." At the bottom, it says "Florida Grower Tampa, Florida".

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THE AMERICAN POMOLOGICAL SOCIETY

At its last convention the American Pomological Society decided upon a more expansive policy of endeavor to meet the changed conditions in the fruit growing industry. Although unavoidable delays which appeared have somewhat slowed up the working out of this program, matters are now in position for progress in this wider field.

The main idea in the reorganized work of the society is that of greater service to the industry, both commercial and amateur, and all plans will be formulated around that scheme. They include affiliation with horticultural and pomological societies and other organizations; co-operation in programs which promise betterment for the fruit business; the dissemination of information on markets and marketing; new practices, methods, inventions, and equipment, varieties and other matters of general interest; concern in national affairs such as legislation, transportation, quarantine, export; organization of branches in the colleges of agriculture; encouragement of fruit exhibitions; stimulation of educational campaigns looking to the greater use of fruits; the maintenance of its interest in nomenclature; the publication as in the past of the transactions of the society, together with a new pomological annual containing matters of general importance and interest; regular correspondence to members from the headquarters of the society.

The American Pomological Society will in no way become a trade organization. It will deal only in information. Its program will supplement and assist such marketing efforts as are made by other organizations.

The fruit interests of the United States and Canada need some central organization through which they can function unitedly and harmoniously. With such they will be in position to give and receive aid to and from each other and to and from other agricultural organizations.

The membership of the American Pomological Society now represents all fruit sections of the United States and Canada, but a larger membership is essential to complete effectiveness. This plan of development has the support of growers, agricultural colleges and experiment station workers, commercial concerns and others interested in progress in pomology.

The next annual convention will be held in Toledo, Ohio, December 7, 8, 9. A large attendance and extensive exhibits are expected.

Send your membership fee of \$2 to R. B. Cruickshank, Secretary-Treasurer, Columbus, Ohio.

WEBSTER AGAIN FIRST

By winning first place in a Minnesota single acre orchard contest begun in 1914 by the Minnesota State Horticultural society, D. C. Webster, La Crescent, was awarded a prize of \$200 on his orchard which scored 90.80. T. C. Smith, Lakeville, scored 81.16 and was awarded the second prize of \$150. W. S. Widmoyer, Dresbach, scored 76.06 and was rated third. He received a \$100 prize.

Although 28 contestants started out, only 10 finished the contest, according to R. S. Mackintosh, secretary of the society, who examined the orchards in August together with Edward Yanish and R. A. Wright. Each tree was scored on the following points: growth, density of head, balance, uniformity, alignment, health of trunk and branches, foliage and fruit and integrity of orchard.

Others, who will receive a pro rata share of \$150, and their scores are: E. W. Mayman, Sauk Rapids, 68.86; Henry Dunsmore, Olivia, 68; A. Brackett, Excelsior, 67.7; J. Flagstad, Sacred Heart, 67; Michael Oleson, Montevideo, 66.9; Henry Husser, Minneiska, 66.21; Hattie Mayman, Sauk Rapids, 49.7.

Among the insect pests of the strawberry, the white grub is pre-eminent. These are most troublesome in sod land that is planted to strawberries.

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A Fruit Packing House In Florida

(Continued from page 3)

packed by the association. It will be seen, therefore, that no mean fund will be provided to retire the entire bond issue. Each grower will be given credit on the association books for this assessment, based upon the number of boxes he packs. In all probability within the next two or three years, when it is definitely known the exact acreage which will belong to the association, an assessment per tree will be made to cover membership and the special assessment of ten cents per box referred to will be applied on such membership; any credit remaining to be refunded to the respective growers. Under this arrangement every grower will be treated impartially.

The construction of packing houses such as this means a reduction of the fire hazard, with a consequent lowering of rates; attractive surroundings for employees, which in turn brings satisfaction and better work; clean, bright fruit and a high-grade, honest pack begot worth-while prices for our produce, and this in turn fosters peace and contentment for the grower.

Affiliated with Exchange

Perhaps it is not too much to say that the construction of our building, and all of the benefits accruing therefrom, was brought about because of our affiliation with the Florida Citrus Exchange, that big, co-operative, non-profit-sharing organization composed of the growers themselves, and which has meant so much toward the up-building of this part of Florida. We are candidly of the opinion that if it were not for the Exchange this building would never have been erected, and, furthermore, there would be much less acreage planted to citrus fruits than we find in the state today. Why? Simply because if a grower was obliged to depend absolutely on independent organizations to market his produce, and in which he had no interest, the growing of citrus fruits in Florida would not be the attractive, remunerative occupation we find it to be today.

But the Exchange means the growers. It is the growers. It is their own organization. They select their own officers and directors, who in turn select their salesmen and perfect a selling or marketing agency for each of the larger cities in the north, west and east. Every penny of profit in the sale of fruit is returned to the grower, who has borne the risk and carried the burden of growing his crop. In other words, there is no middleman. The grower's fruit is marketed through a medium of which he forms an integral part, and in which he is given an opportunity to direct its policies.

The Florida Citrus Exchange is purely a marketing agency. It does not have groves of its own. It does not speculate. It does not issue stock. It has no favorites—everyone is treated fairly and justly. Its business is to take the grower's fruit and sell it for the highest market price, and return to him the proceeds of such sale, deducting only the actual costs connected with the same.

Other Ways of Co-operation

Closely allied with the Florida Citrus Exchange is the Exchange Supply Company. This concern has enjoyed a phenomenal growth since its formation several years ago. Its province is to furnish packing houses affiliated with the Exchange with its necessary supplies such as paper, crate materials, nails, ladders, machinery, etc. It makes fertilizers, furnishes feed for stock, and supplies tools and other equipment of every kind for the grove. And best of all, it is not a money-making proposition for the company, but rather a money-saving utility for the grower, as this organization also is composed of the growers themselves, and any surplus at the end of the season is rebated to the growers in proportion to the amount of their purchases.

Still another subsidiary company

Implement Prices Down

OUR 1922 reduced prices on farm machines have just been issued and are effective immediately. They apply on practically our entire line of International Harvester grain, hay, and corn harvesting machines, plows, tillage implements, seeding machines, etc.

In determining these prices, the Company has made a careful study of market and labor conditions and has based the price reductions on the lowest possible raw material and production costs that can, under most favorable conditions, be forecast for the season of 1922.

harvest to make a substantial payment on a new machine. The new machine will go on for many years, saving a large amount for you each year.

Economy consists not in getting along with worn-out machines but in farming with efficient machines.

At the new prices, a grain binder can be bought for \$50 to \$60 less than the price of Jan. 1st, 1921; and other reductions are in proportion.

At these prices no farmer can afford to postpone the purchase of needed machines, especially if his present equipment will not stand up under the work of another planting and harvest.

An old corn planter may crack enough kernels and miss enough hills to make its use mighty expensive. A new planter will save much of its cost the first season. The same is true of a drill. Your old binder may lose grain enough in one

will of course continue with that part of your present equipment which is in good order and satisfactory. But it is good judgment now as always to abandon those machines which are really worn-out. Where repairs have been made again and again, beyond the point of serviceability, waste and loss are pretty sure to follow. Present prices will enable you to replace the old with efficient, modern machines. As Mr. J. R. Howard, President of the American Farm Bureau Federation, has said, "The farmer who needs additional machinery and equipment pays for it whether he buys it or not."

If you are at present interested in learning some of the new prices, or in looking over any individual machine, the International Dealer in your vicinity is at your service.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

CHICAGO

INCORPORATED

U.S.A.

92 Branch Houses and 15,000 Dealers in the United States

Frost Protection for your orchards

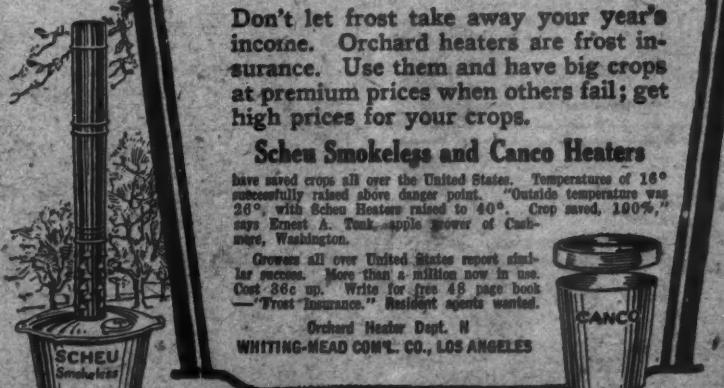
Don't let frost take away your year's income. Orchard heaters are frost insurance. Use them and have big crops at premium prices when others fail; get high prices for your crops.

Scheu Smokeless and Canco Heaters

have saved crops all over the United States. Temperatures of 16° successfully raised above danger point. "Outside temperature was 26° with Scheu Heater raised to 40°. Crop saved, 100%," says Ernest A. Tusk, apple grower of Cashmere, Washington.

Growers all over United States report similar success. More than a million now in use. Cost 86c ap. Write for free 48 page book "Frost Insurance." Resident agents wanted.

Orchard Heater Dept. N
WHITING-MEAD CO., LOS ANGELES



Read "The Son of Wallingford" on page 15—you will enjoy it.


**Sure Rupture
Comfort**

Brooks' Appliance, the modern scientific invention, the wonderful new discovery that relieves rupture, will soon be on trial. No dangerous springs or pads.

Brooks' Rupture Appliance

Has automatic Air Cushions. Blinds and draws the broken parts together as you would a broken limb. No valves. No ties. Durable, cheap. Sent on trial to prove it. Protected by U. S. patent. Catalog and measure blanks mailed free. Send name and address today.

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house, Ranchero, Movie matto of 150,
U. S. Supply Co., Box 87, Greenville, Pa.

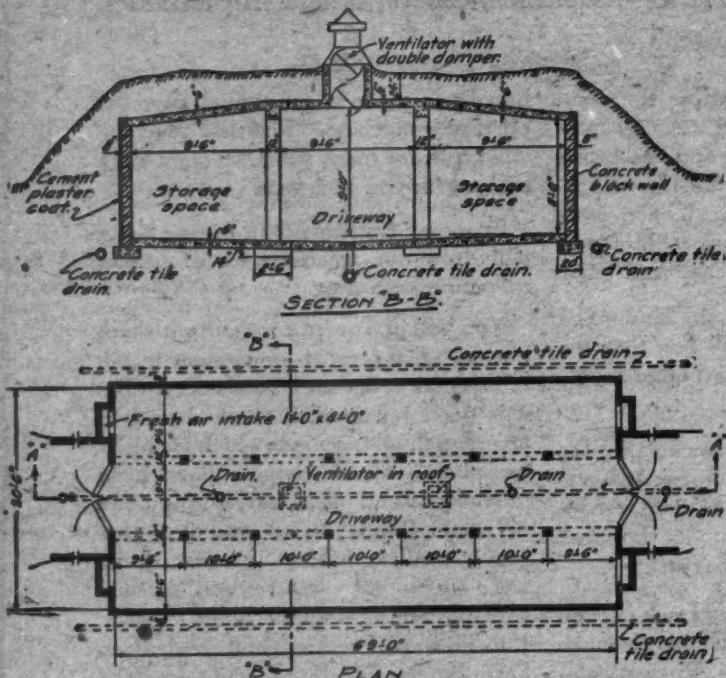
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Get These Free Plans

EVERY year you put off building a fruit storage cellar you are helping to pay the cost of some other fellow's big city storehouse.

Why not pay this money to yourself?

Spring fruit prices average much higher than fall prices when markets are glutted. The grower with home storage facilities takes spring profits.



Concrete storage cellars are as near everlasting as can be built; easily kept at uniform temperature; no expense for repairs.

Blueprints of the above plan are free for the asking.

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Easy to Own a Dependable Ottawa
Prices Lower Than Ever!

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Days' Trial.



OTTAWA
GASOLINE ENGINES

1½ H.P. \$35.50
2 H.P. \$38.50

1½ H.P. to 22 H.P. Magneto equipment or batteries. Easy to start. Easy to operate. Dependable power at all times, for all uses. Better built throughout for hard work. Thousands in use. Every owner a booster.

OTTAWA MFG. CO., 111 W. Washington Street, Chicago, Illinois.

RHODES DOUBLE CUT
PRUNING SHEAR

Patented

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. All shears delivered free to your door.

Write for
circular and
prices.

RHODES MFG. CO.,
332 S. DIVISION AVE., GRAND RAPIDS, MICH.

Do you remember the stories of "Get Rich Quick Wallingford"? Well "The Son of Wallingford" starts in this issue, page 15. Read it.

which during the past few years has filled a long-felt want is that of the Growers' Loan & Guaranty Company—also an organization of growers affiliated with the Florida Citrus Exchange. If a grower finds himself in need of assistance before his fruit is mature or before it has been marketed, application is made for a loan, and, upon recommendation of a committee in the community cognizant with the facts, an advance on his crop is available to tide him over the emergency period. Or, if a community is in need of a packing house, and finds itself in need of financial assistance, or desires the advice of experts upon the type of building to be constructed and the necessary units of machinery to be installed, the services of this company are available for the asking.

It is readily seen, therefore, that the advantages accruing to members of any association affiliated with the Florida Citrus Exchange are almost untold in number. The grower receives all supplies, from fertilizers and spray materials down to common field tools, at actual cost; his local packing house attends to the picking and hauling of his fruit, if he so desires, and he is relieved from this responsibility; he is given financial assistance with the least possible amount of red tape in case of necessity; his crops are marketed by one of the most efficient sales organizations in the country, and he receives the net proceeds thereof without the intervention of middlemen; and lastly, he knows that he forms a living part of the organization itself, having a voice in its management, and as such is responsible for its success and development.

The Lake Alfred association is one of nineteen similar associations comprising the Polk County Sub-exchange. During the season of 1920-21 there was a total of 1,666,416 boxes of oranges, grapefruit and tangerines shipped from this county alone through the Exchange. In other words, the Exchange handled about 90 percent of the crop grown in this county. It will be seen therefore that the vast majority of growers in Polk county recognize the advisability of shipping co-operatively, and we believe as growers without the fold understand the advantages accruing to them through the Exchange, they will in due course cast their lot with that organization which is always working for their interests.

Editor's Note: The Florida Citrus Exchange during the past season handled over 82 percent of the citrus crop of Florida. Because of the excellent work it is doing to enlarge the market for Florida citrus fruits it should have the membership of all citrus growers in the state. If you grow citrus in Florida and are not a member of the Exchange, why not? Tell us about it. We would like especially well to hear from you.

EXTENDING THE GRAPE IN TEXAS

Experiments have been under way that the Texas Experiment Station to test the comparative hardiness of different varieties of grapes as compared to the same varieties grafted on *Vitis champinii* stock, a hardy native species closely related to the mustang grape. The plats that the experiment station where these tests have been made are not provided with the best of drainage, and many vines have died. In every case, however, the varieties growing on their own roots died first. Those living and producing at the present time are all grafted on *Vitis champinii* stock. According to the experiment station authorities this would indicate much greater hardiness of the native stock, which if used on suitable soil, should greatly extend the grape growing region of the state. The experiments are to be enlarged with a view of getting full and complete data.

Do you belong to your county farm bureau? If not, talk it over with your county agent and find out how you will be benefited by belonging to your county organization.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors

A Safe, Speedy and Positive Remedy for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puff, Skin Diseases, Parasites and Thrush, and Lameness from Spavin, Ringbone and other Bony Tumors. Removes Bunches from Horses or Cattle.

For Human Use Caustic Balsam has no equal as a Liniment and Counter-irritant for Inflammatory and Muscular Rheumatism, Sore Throat and Chest Colds, Gout and Stiff Joints.

A Perfect Antiseptic—Soothing and Healing if applied immediately to Burns, Bruises or Cuts.

Every bottle will give satisfaction. Sold by Druggists or sent by parcel post on receipt of price \$1.50 per bottle. Send for descriptive circulars and testimonials.

The Lawrence-Williams Co., Cleveland, O.

*yours—
for growing
satisfaction*

Over 41%

of business comes from our old customers. They like our stock and methods of dealing and come back for more.

Conditions like these are gratifying, and while perhaps unusual, are easily explained....we furnish reliable, true-to-name trees and plants in prime condition, free from diseases, accurately caliper-graded for size....and at fair prices.

And in addition we furnish our customers with books and pamphlets filled with dependable information for the fruit grower.

No matter what your needs—a few trees for the home place, or a large orchard—we can serve you satisfactorily, as we have thousands of others.

Write for "Better Fruit Trees," our illustrated catalog—listing and describing tested varieties. Full of helpful information. Tells how to select site, prepare the ground, plant, property, etc. Helps you to start right. Free on request.

Also send for "Inside Facts of Profitable Fruit Growing"—80 pages full of easy-to-read information invaluable to amateur and professional alike. Free to customers—to others 10c.

Another booklet, 48 pages, "How to Beautify Your Home Ground," tells how to select and plant shrubs and ornamentals to the best advantage. Free to customers—to others 10c. Write us—want you also to realize "Growing Satisfaction."

NEOSHO NURSERIES - CO.
221 Bird St.
NEOSHO, MO.

PEACH TREES **APPLE TREES**

June Bearing 1 Year

STRAWBERRY PLANTS

Standard Bare Root and Everbearing. We grow for the commercial planter. You will find our trees and prices right.

WRITE FOR PRICE LIST

CHATTANOOGA NURSERIES, Chattanooga, Tenn.

CANTALOUPES GROWERS

We want the name and address of every reader of the American Fruit Grower who grows cantaloupes for private or commercial use. Send it and we will send you free something you will appreciate. All about "Hearts of Gold," the finest cantaloupe ever produced.

M. MORRILL & CO., Originators
BENTON HARBOR, MICH.

FREE **RIFLE** and **500 DUCK BILLS**

Special Business on expert marksmanship Rifle fully equipped. Best provided for selling only 25 cents each. Order now. Send money order. **SALES MFG. CO., Dept. A-37**

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The Orchard Home

A Section for Orchard Women and the Children Edited by Mary Lee Adams

A Crime—93 Per Cent for War Taxes

ON NOVEMBER 11, 1918, we celebrated amid huge rejoicings and with naive faith, the close of the war that was fought to end war. Three years later, on November 11, 1921, delegates from many nations will meet in a chaotic atmosphere of hopes, fears and suspicions, to debate the possibility of lessening the great and growing burden of war preparedness.

The picture of the Appropriation Pie shows more clearly than words, the exorbitant share of revenue that is consumed by war. The figure of Education groveling on the floor for a pitiful one percent crumb, alone suffices to turn the heart sick. But even this shrinks into comparative insignificance beside the thought of the intolerable burden of taxation that is being laid upon us. From a purely practical business standpoint, Mr. Norris, Governor of the Federal Reserve Bank of Philadelphia, has pithily expressed the situation in the three words "Disarmament or bust." We must not "bust."

But again, among women at least, the acute financial situation is less prominent in thought than the hideous terror, bloodshed and misery that another war would precipitate upon mankind. Horrible as was the late war, we are told by those who are best informed, that it was but as a flame upon your own hearth stone to a gigantic forest conflagration, when compared with the next war which will be fought with all the devilish devices known to advanced science.

Tomorrow these devices may be so deadly that, in the event of war, literally few would survive in a world rendered unfit for habitation. Then indeed neither age nor sex will be spared. Even today, death could fall from the clouds in bombs charged with disease germs, in bombs filled with Lewisite gas, which penetrates trench and cellar, which poisons and slays with no more than three drops upon the skin.

Raymond Robins, than whom no better or more widely informed person is qualified to speak on the subject, says that there is no child alive today who, in the natural course of human existence, will live to see the pre-war degree of amity, peace and prosperity in the world.

"Since the war the General Staffs of all nations, have put scientific men and inventors to work studying the possibility of killing men." Such has been the result of the war which killed in detail, and already we are rushing at mad speed to prepare for the war which will kill by wholesale. "What we prepare for we shall have." It was Germany's belief that she had built up an invincible military machine, which led her to throw down the gauntlet to the civilized world.

Nor are we alone in our huge preparations. It is impossible that any nation should stand alone in this. When one country sees another arming to the teeth, a natural suspicion arises and the simple instinct of self-preservation demands that they aim at such ability to resist as lies within their capacity. And yet we firmly believe that the great mass of the people of all nations desire

and one-half times bigger. And after all the pains and cost of piling up battleships, there may any day be developed from the air, from chemicals, from electricity, a force that will put the battleship in the discard.

Practically everyone save munitions makers and those whose occupations flourish upon the ghastly business of war, is eager to end war. All are beginning to realize how hopeless and terrific are its consequences. Lloyd George is quoted as saying to a large group of newspaper men in the days immediately preceding the armistice, "Gentlemen, if after winning this war we cannot find some means to take the fear of war out of the human heart, we may as well bid good-bye to our civilization."

Now approaches the immortal moment when America, by reason of her great strength, can take the lead in bringing about at least a lessening of that fear which is driving the nations like a nightmare. If she comes forward with liberal, disinterested proposals, not designed to take advantage of the weakness of her associates, much may be accomplished.

What is America's will in this matter? What is your will? What the people want they can have. With the power of the vote behind them, women can now exert that influence over office holders which comes from the fear of losing office. Write to your senators and representatives a personal letter demanding reduction of armaments.

Write to the four men who are chosen as United States delegates in this momentous conference, and state that you will them to discover some wise plan for the fullest possible measure of disarmament and to provide for the fullest possible measure of publicity. After all, it is not these delegates who are chiefly concerned, but the people who groan under heavy taxes, whose men in case of war, will be killed on the field or upon the seas, whose women will be blown up in munitions factories, whose little children may be exterminated upon the streets of their towns or on the quiet country roads.

Whether you are democrat or republican, let it make no difference. Write to the person who has called this conference—to the President of the United States. To him, most of all, you should give the assurance that you stand firmly behind him. Tell him that your prayers go up to God for the success of this effort to lift the horror of slaughter, of famine, of bankruptcy, from the world. That you are ready to hold up his arms as the arms of Moses were upheld of old. Write to

Hon. Warren G. Harding,
Washington, D. C.

Dear Mr. President:

The Appropriation Pie



peace. The world war left few strong enough to engage in competitive armaments. Of these we are the most powerful. Potentially we are stronger than any three European nations. This gives us tremendous influence and also imposes heavy responsibility.

What the nations want is peace, rest and security, so that they may build up their shattered industries. We, who have suffered least, are in no such prosperous condition and we should be. How much we need money for all sorts of public works and welfare. Federal taxes average \$53.82 per capita, but 93 per cent of this goes upon military expenditures. Think of appropriating \$500,000,000 for naval armament alone in the coming year! It is monstrous. It is essentially madness. As Steven Leacock points out, we are not aiming at any definite end, for there is no end.

Nor is anything like permanent superiority possible. The faster we all arm, the more equal our proportionate strength becomes. When you have two battleships and I but one, you have twice as many as I. But if I build another ship to balance yours and you cap this with a third vessel, you are still one ship ahead but you no longer have twice as many as I, you are then just one

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The Son of Wallingford

By GEORGE RANDOLPH CHESTER
and LILLIAN E. CHESTER

This is the first installment of George Randolph and Lillian E. Chester's adventurous romance "The Son of Wallingford" of "Get Rich Quick Wallingford" fame. Installments of it will appear from month to month in these columns and you will enjoy reading each one as it appears. Begin with this first installment and follow through the series.

HAVING come exactly that time of late afternoon for Mr. Gander to cross the road, he quite naturally proceeded to cross the road. He quacked and once only, a short, deep-voiced peremptory quack in significant sense of his lordly intention; and so justifiable was his belief in the obedience of his harem that when he emerged upon the highway the three Mrs. Ganders were waddling after him in precise order, the favorite first. The blue sky glistened above them, and the waning summer sun was warm, and at the bottom of the hill spread, toylike, Fawnlake City at the edge of its patch of shimmering water, always good for a place to look upon—and the world was ours. As the plump and sticky procession neared the center of the road, however, a long-nosed yellow rooster rooster loomed above the brow of the hill and set up an imperative crowing.

Why should the goose have been so popular in history and literature, and fails to seem a ridiculous figure? There is nothing so majestic as a goose, nothing so dignified, nothing so insistent upon a principle. Mr. Gander had been crossing the road from the Waite spring run to the Curtis place, at this particular spot and at this particular time of day, ever since he had ceased to be a gosling, and, secure in his sacred rights as a pedestrian, he quacked his answer to the honking impertinent and waddling straight on across the road, looking neither to the right nor to the left, and daring to quicken his pace by even one heartbeat lest his females think him less gallant, and such was the beautiful faith of the Mrs. Gander in the leadership of their lord and master, who had always protected as well as chastened them, that suppressing any feminine inclination they might have had for panic or flight, they waddled straight on after him in unbroken procession while the nut destroying monster came bearing swiftly down on them!

More honks, yells, the wild screech of brakes, and the smell of burning rubber, and the destroying monster stopped with a jerk not two feet from the place, while young Jimmy Wallingford dropped both arms limply and young "Toad" Jessup sank back to expire all the breath he had been holding in his capacious lungs. Upon this, as the eldest Mrs. Gander serenely swished her tail through the Curtis fence, a silver laugh rang out nearby.

Nature, doubtless for reasons of her own, has put into young men innocent curiosity concerning a silvery laugh. So both tourists looked. There, where the trumpet vines arched over the gate of Talbot Curtis's beautiful unfashioned place, the boys beheld a most interesting contest between Mary Curtis and the scenery. Tall old trees, high-pillared old white house with honeysuckles, green lawn, flowers, strawberry, a background of rock-strewn brown hills, flocks of lazy white doves in the blue above; that was the scenery. You know, exquisite stuff which an artist might paint in a picture. As a rival of all this was just a slender slip of a girl in a simple white dress and a floppy Leghorn hat. Yet she won the contest immediately and unanimously. There is no use to describe shining dark hair, delicately lined oval cheeks, curving red lips, pointed chin, well-arched brows, large set eyes, slim white neck, or well-polished head and all such things, for the same might be said of many another girl, only—and here is the vast difference—this was Mary Curtis!

"This is Fawnlake City, the town the signboards have been telling about for thirty miles."

"Couldn't see 'em," declared Toad, unabashed, and he put an elbow comfortably on the gatepost. "This little old car just refuses to be slowed down for a signboard. Say! Do you want to see the dandiest little engine ever hidden under a hood?"

He led the way out to "Sweet Potatoe" so confidently, and his enthusiasm was so contagious that Mary Curtis, smiling at herself for doing it, found herself looking at the inwards of the imported miracle.

When "Capt. Smooth" returned to fill the radiator, "Lieut. Freckles," who was not a flowery describer, though graphic, was most volubly explaining the talented carburetor. Mary's hand lay on the front fender. It was a long, splendidly formed hand with pink nails tapering and well kept; a beautiful hand. She moved it. She was distinctly conscious that it was being admired warmly. There was a click. Why she should have an unconquerable curiosity to see anybody screw on the cap of a radiator she could not have told, but she had; so much so that her neck muscles acted independently of her will, and they, not she, turned her head in Jimmy's direction. He was smiling! He was about to speak—to open a conversation! Panic suddenly seized little Mary Curtis, along with the guilt of vast impropriety! Why, this audacious young stranger would

Lucas

Insecticides-Fungicides Paints and Varnishes

Which Spray Pays Best?

Look carefully at the two bottles shown here. Ordinary spray materials are so coarse that they settle within a few minutes after agitation. Lucas Insecticides stand in suspension for many hours because of their extreme fineness. The effect is even distribution over all foliage and fruit surfaces—there are no unsprayed spots for pests to feed upon. Lucas spray materials stick better than coarser materials, just as the finer particles of dust stick to the sides of a highly polished automobile even through a heavy rain. This means fewer sprays per season. Better insist on the Lucas brand this year and make each spray count.

Lucas Dry Powdered Arsenate of Lead

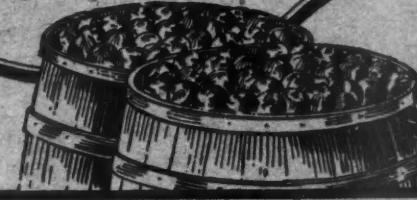
is sold in 1-lb., 5-, 10-, 25-lb., 50-, 100- and 200-lb. light, strong, sift-proof containers with friction-top tin caps. No glass jars to break; no paste to freeze or harden; no freight charges on water. Keeps in any climate. Write Dept. 70 for name of nearest dealer, Lucas Spray Chart and for booklet, "A Plain Answer to the Question, Why Lucas Insecticides and Fungicides Are a Step in Advance" and "The Proof That Lucas Insecticides and Fungicides Serve You Best."

John Lucas & Co., Inc.

PHILADELPHIA
NEW YORK PITTSBURGH CHICAGO BOSTON DENVER OAKLAND
ASHEVILLE, N.C. BUFFALO, N.Y. MEMPHIS, TENN.
HOUSTON, TEXAS JACKSONVILLE, FLA.
SAVANNAH, GA.

Take sample of the spray material you have been using to the nearest Lucas dealer, and make this test with the cost of his keeps on his counter. To do so may mean a gain of several hundred dollars in the value of your fruit crop.

"The Results Are
Fine Because the
Particles Are Fine"



"Bean" SUPER GIANT JUNIOR sprayer

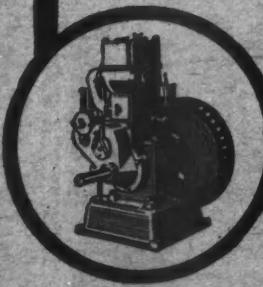


Higher Pressure and Larger Capacity!

A new achievement in sprayer building, combining high pressure and very large capacity in a compact rig of moderate weight that can be easily hauled by an ordinary team. Throws 14 gallons of liquid a minute at 300 pounds pressure, and has a 300-gallon tank, which means quick, thorough work when the spray does the most good. Equipped with new 6 H.P. Bean engine. Send the coupon for new catalog, which describes the new outfit, the new Bean engine, and the entire Bean line for 1922.

BEAN SPRAY PUMP CO.

15 Hoemer Street 104 W. Julian
Lansing, Mich. San Jose, Cal.



This is the new engine
that does the work.
Sturdy and
dependable.

BEAN SPRAY PUMP CO. | 15 Hoemer St., LANSING, MICH.
104 W. Julian, SAN JOSE, CAL.
Please send me your New Sprayer Catalog
Name _____
Town _____
State _____
No. of acres _____
(Co.-sq.)

MYERS SPRAY PUMPS



FOR
SPRAYING,
PAINTING,
WHITEWASHING
AND DISINFECTION.

CATALOG FREE ON REQUEST

THE F.E. MYERS & BRO. CO.
150 ORANGE ST., ASHLAND, OHIO.

MANUFACTURERS OF PUMPS FOR EVERY PURPOSE
HAY UNLOADING TOOLS AND DOOR HANGERS

The inestimable value of spraying has again been demonstrated this year. While some localities report smaller crops of fruits and vegetables than usual, the quality has invariably been far above the average thus balancing the shortage in production.

This indicates that whether the yield be an abundant or small one there is always a ready sale for choice fruits—and choice fruits can no longer be grown without resorting to the protection afforded through spraying.

MYERS SPRAY PUMPS, NOZZLES and ACCESSORIES have long been assisting fruit growers, farmers, gardeners, and others in their fight against plant and tree enemies. Economical, practical, reliable and fully proven, with styles to meet all spraying requirements, no matter how large or small your orchard or vineyard, there is a guaranteed Myers Spray Pump that will exactly fit your needs, and the price will be as low or lower than many of the light weight, poorly constructed and cheaply equipped cut-offs now on the market.

Call on the Myers Dealer in your locality or write us direct when ready to purchase. Send for a copy of our late catalog today—it's free and a postal will bring it to your door.



TWICE THE HEAT In Any Stove

INSTANT-GAS

Gives one of the hottest and quickest fires known. Works in any coal or wood stove. Cooks and bakes better, cheaper, quicker than coal or wood. Ideal for heating. Starts in a few seconds with a turn of the wick. No smoke building up on cold winter mornings, no poking shoveling, no back-breaking carrying of coal and wood, no more dirt, ashes, and dredging. The Instant-Gas changes any range, cook stove, or heater into a modern gas stove. Controlled by a simple valve, giving you a steady fire, tremendously hot or moderate, as you desire.



NO WOOD—NO COAL

Agents: \$8.00 to \$15.00 a Day

The World's Greatest Fuel—The Instant-Gas burns its own oil at 90% air and 6% common kerosene (coal oil). Oil is now the best fuel—used for every purpose, from cooking and heating to running locomotives and battleships. Biggest warships now use no other fuel but oil. The Instant-Gas enables you to use this wonderful fuel in your own home, in your old coal or wood stoves. Eliminates coal and wood altogether. Installed in 15 minutes. Costs only a few dollars. Pay for itself in short time. Price of oil now lowest in many years. 20 Days Trial at Our Risk—The Instant-Gas

is simple, quickly installed or removed, and easily turned on or off. No drilling, cutting or other harm to stove. No smoke or emanations. Already giving satisfaction in thousands of homes.

Our Free Literature—Tells how others are making, and how you can make, tremendous profits as agent for the Instant-Gas. Men or women—part time or all time. Write today for agency and sample.

INTERNATIONAL HEATING COMPANY
400 N. Broadway, St. Louis, Mo.

A CORRECTION

Through a typographical error, the word "Wilson" was substituted for "WILCOX" in the advertisement of

The Peck, Stow & Wilcox Company
CLEVELAND, OHIO

This company manufactures the



brand Pruning Shears. Their ad offering the "Little Pruning Book" containing forty pages of information about pruning, sent prepaid for 50c, appeared on page twelve of our October issue.

MAKE HENS LAY

By feeding raw bone, Its egg-producing value is four times that of grain. Eggs more fertile, chicks more vigorous, broilers earlier, fowls heavier, profits larger.

MANN'S LATEST MODEL Bone Cutter

Cuts all bone with adhering meat and gristle. Never clogs. 10 Days' Free Trial. No money in advance.

Send Today for Free Book.

F. W. Mann Co., Box 522, Milford, Mass.



\$10

\$10,000.00

BACKS THIS

Hertzler & Zook
Portable Wood Saw

Our O-1 which takes up to 22 inches, is best and cheapest saw made for attaching to ripping table. Guaranteed good for a year. Money refunded if not satisfactory. Write for catalog.

Hertzler & Zook Co., Erie, Pa.

think she was flirting with him! Help! Help! Salvation came up the hill in the nick of time, and in the semblance of a comfortably built man in a pongee suit, a Panama hat, and white canvas shoes, who walked with a slight waddle, carried a palm-leaf fan in one hand and a market basket on the other arm.

"Oh, it's daddy!" exclaimed little Mary, and ran to greet him affectionately.

Jimmy leaned his elbow on the radiator and looked at Toad. Toad leaned his elbow on the firedoor and looked at Jimmy, and both realized that an event of unusual interest had come into their lives. They had stopped at a gate and asked a girl for water for the engine of their car, and she had gone to kiss her daddy. Of such events are the thrills of life composed! Not a word said Jimmy, and not a word said Toad for as much as a minute, when the solemnity of the occasion was broken.

"Well," Toad grinned, "I suppose here's where we locate."

Jimmy grinned, too; then he looked down the long road which became Main street where the paths turned to sidewalks, and his grin changed to a mischievous smile. Suddenly he wheeled and walked straight over to where the attraction clung, for protection, to daddy's arm.

"I beg your pardon," he said briskly but with his pleasantest address, while little Mary gasped at his audacity. "Can you tell me the population of this town? We are looking for a business opening."

At dusk the boys were still on Tal Curtis's portico, getting facts about Fawnlake City, the wealth of its surrounding farm activity, its grain elevators, its cattle industry, its factories, its banks and its commerce in general, as Mary noted when she, every now and anon, passed back of the fluttering lace curtains of the parlor windows. Mother Curtis and grandma came out meantime to the corner of the great high portico where it pillared back in stately procession along the side of the house and Mother Curtis, a stilly dignified lady, indeed, sat in her prim sparseness and upheld the pride of the old Curtis family—she was a Bizzie-weed before marriage. Grandma, a keen-eyed little old bit of femininity, with her white hair waved just so and a perpetual fichu around her neck, was too active of mind for sitting pride, so she trotted down the path and among the flower beds; and there was something so suggestive of home in that vague wreath amid the misty garden that soft sentiment began to drowse both the wandering youths.

DOWN there, where Main street started, the boulevard lights began to glow softly in the gathering twilight like great smooth pearls.

Suddenly Ma Curtis rose and stalked into the house, and then there was the suggestive clink of dishes.

"I think we'll stay in Fawnlake long enough to investigate," observed Jim Wellingford to Tal, taking the hint immediately, and he started down the path, accompanied by Toad and their cordial host, the infantile face of the latter aglow with eager interest.

"If my business experience can help you any, you must feel free to consult me," urged Tal, his white curls bobbing around the nape of his neck as he waddled alongside on the grass, "although I'm not much of a business man. I'll be glad to see you at any time, Mr. ——"

Jimmy hesitated. There came back to him rather poignantly the scene which had been the cause of his leaving home—to make his own place in the world. It had been at 2 o'clock in the morning in the Wallingford library in far-off Tarryville.

"I AM not satisfied with you, Jimmy!" suddenly exploded Jimmy's father, placing his fist on the table and pressing it there, a much more significant demonstration than if he had pounded, and his round face went white.

Jimmy's eyes roved to his mother. Her lips were quivering, though she strove to hold them firm, and the slender fingers of her two hands were clasped together in her lap. A good woman, Fannie Wallingford, gentle, refined, sweet—a woman with no other interest in life than her husband and her son. Jimmy sat easily on the arm of her chair, and, without looking at her, put his arm around her. From now on he never removed his clear gaze from his father, and the two men looked steadily at each other. They were very much alike, and suddenly each of them realized that the other knew no law except himself.

Blackie Daw, for the first time in his life, felt panic-stricken as he sat nervously twisting on the piano stool. He had sailed many an uncharted commercial sea as a fellow pirate with J. Rufus Wallingford, and their families were as one in fortunes and affection; his long, lean fingers tugged at his pointed black mustache; he lit a cigarette and looked at the floor. Plump and hearty Violet Bonnie Daw powdered her nose like a flurried automaton, not knowing what else to do except to cling to the coat sleeve of stupefied Toad Jessup, who had been out until now with Jimmy and the gay young ladies of the "On with the Jazz" company. The silence became intolerable. It was J. Rufus who broke it again.

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(To be continued)

NEW LAMP BURNS 94% AIR

Beats Electric or Gas

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal-oil).

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AGENTS

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PRINCE ALBERT

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Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of April 24, 1912. Of "American Fruit Grower," published monthly at Chicago, Illinois, October, 1921. State of Illinois. County of Cook, etc.

Before me, a notary public, in and for the State of Illinois, personally appeared, Robert B. Campbell, who, having been duly sworn according to law, deposes and says that he is the publisher of the American Fruit Grower, and that the following is to the best of his knowledge and belief, a true statement of the circulation, management, and editorial policies of the American Fruit Grower, and that I have read and understood the same, and that I am familiar with the publications for the date shown in the above certificate required by the Act of August 24, 1912, and am in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Robert B. Campbell, Chicago, Ill.; Editor, Robert B. Campbell, Chicago, Ill.; Managing Editor, E. H. Fawcett, Chicago, Ill.; Business Manager, J. V. Orlmann, Chicago, Ill.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) Mary Lee Adams, Greenwood, Va.; H. R. Rankin, New York; Robert A. Campbell, Chicago, Ill.; Hollis Binehart, Charlotte, N. C.; J. B. Ford, Chicago, Ill.; L. E. Burns, Atlanta, Ga.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, containing the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear on the books of the company but also, in case there is a class of stock or security, a list of persons appearing on the books of the company as trustees in any fiduciary relation, the name of the person or corporation for whom such trustee is acting; it is further declared that the said two paragraphs contain statements embracing affiant's full knowledge and belief of the circumstances and conditions under which stockholders and security holders who do not appear on the books of the company but are listed on the books of some other company holding stocks and securities in a capacity or interest different from that of a bona fide owner; and that the affiant has reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than that shown by him.

ROBERT B. CAMPBELL, Publisher
Sworn to and subscribed before me this 2nd day of Sept., 1921, JESSE F. JENKINS, Notary Public.

(SEAL) My commission expires March 15, 1922.

Winter Fruit Meetings

Secretaries of horticultural societies and other organizations of fruit growers are requested to advise us of their meeting places and dates for listing in this column, particularly for such meetings as may be of general interest.

November Meetings

New England Fruit Show, Concord, N. H., November 4th to 8th. J. A. Tufts, Jr., Asst. Sec., Exeter, N. H.

Vermont State Horticultural Society, Rutland, Vt., November 17th and 18th. M. B. Cummings, Sec., Burlington, Vt.

Pacific Northwest Fruit Exposition, Seattle, Wash., November 21st to 26th.

Peninsular Horticultural Society, Berlin, Md., November 29th to December 1st. Wesley Webb, Sec., Dover, Del.

Iowa State Horticultural Society, Savery Hotel, Des Moines, Ia., November 30th and December 1st. R. S. Herick, Sec., Des Moines, Ia.

Vegetable Growers' Association of America, Albany, N. Y., November 1st to 5th. C. W. Waid, Org. Sec., Columbus, O.

Third Annual Convention, American Farm Bureau Federation, Convention Hall, Atlanta, Ga., November 21st to 23rd.

Fruit Committee, American Farm Bureau Federation, Piedmont Hotel, Atlanta, Ga., November 19th.

Executive Committee, American Farm Bureau Federation, Piedmont Hotel, Atlanta, Ga., November 19th.

December Meetings

Idaho State Horticultural Society, Nampa, Ida., in December or January. Date to be announced later. I. Lee Truax, Sec., Boise, Ida.

Washington State Horticultural Society, probably at Spokane on December 5th or 12th. Date to be announced later. M. L. Dean, Sec., Wenatchee, Wash.

American Pomological Society, Toledo, O., December 7th to 9th. R. B. Cruickshank, Sec., Columbus, Ohio.

Indiana State Horticultural Society, Indianapolis, Ind., December 13th to 15th. H. H. Swaim, Sec., Lafayette, Ind.

Minnesota State Horticultural Society, Minneapolis, Minn., December 13th to 16th together with Minnesota Crop Improvement Association and Potato Growers' Association, staging the Minnesota Crop Show. R. S. McIntosh, Sec., University Farm, St. Paul, Minn.

Michigan State Horticultural Society, Grand Rapids, Mich., December 13th to 15th. T. A. Farrand, Sec., East Lansing, Mich.

Illinois State Horticultural Society, Champaign, Ill., December 20th to 22nd. A. M. Augustine, Sec., Normal, Ill.

Kansas State Horticultural Society, Topeka, Kans., December 21st to 23rd. O. F. Whitney, Sec., Topeka, Kans.

January Meetings

Georgia State Horticultural Society, Semi-annual meeting at Athens, Ga., in January. Date to be announced.

Delaware State Horticultural Society, Baltimore, Md., January 10th to 12th in connection with the State Agricultural Society. S. B. Shaw, Sec., College Park, Md.

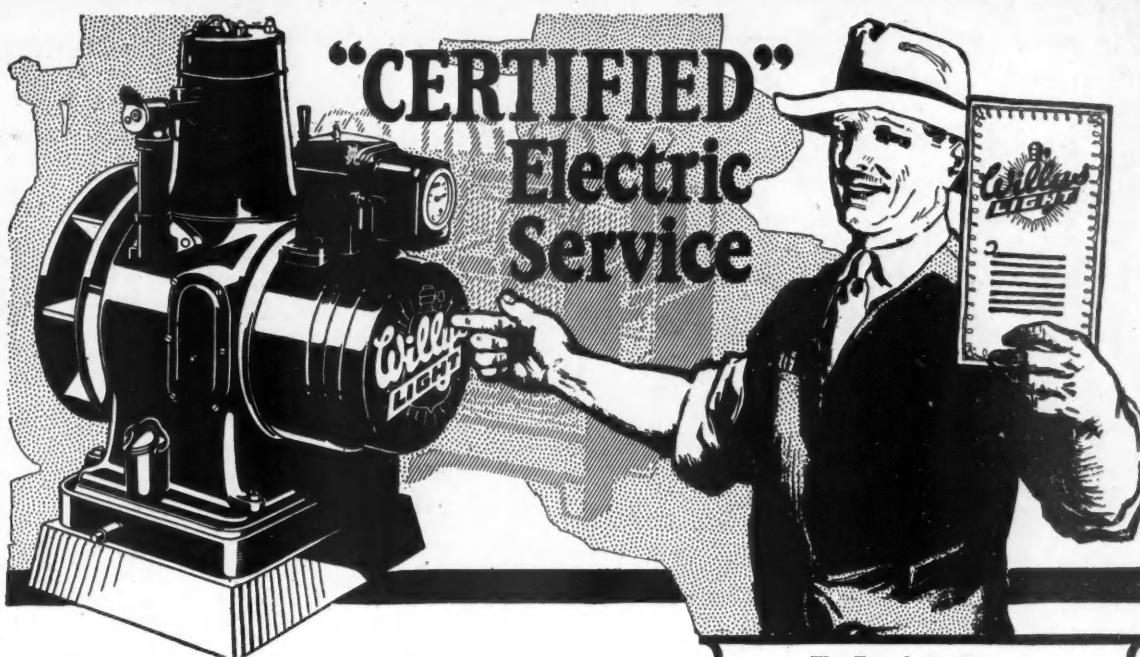
Virginia State Horticultural Society, Richmond, Va., January 10 to 13. W. P. Massey, Sec., Winchester, Va.

New York State Horticultural Society, Exposition Park, Rochester, N. Y., January 11th to 13th. Roy P. McPherson, Sec., LeRoy, N. Y.

Ohio State Horticultural Society, Columbus, Ohio, January 31st to February 1st. R. B. Cruickshank, Sec., Columbus, Ohio.

Montana Horticultural Society, Stevensville, Mont. Date to be announced. J. C. Wood, Sec., Missoula, Mont.

Sixth Annual Fig Institute, Fresno, Calif., January 13th and 14th.



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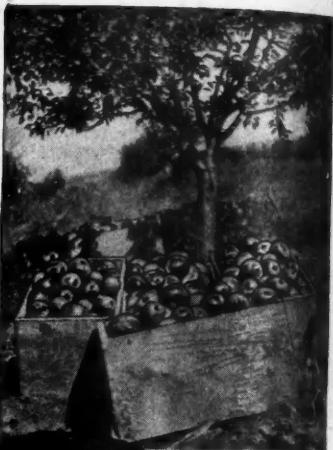
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